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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,413	10/08/2003	Markus Franciscus Antonius Eurlings	081468-0303617	4321
909	7590	06/21/2005	EXAMINER	
PILLSBURY WINTHROP SHAW PITTMAN, LLP			PYO, KEVIN K	
P.O. BOX 10500			ART UNIT	
MCLEAN, VA 22102			PAPER NUMBER	

2878

DATE MAILED: 06/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/680,413

**Applicant(s)**

EURLINGS ET AL.

**Examiner**

Kevin Pyo

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-23 is/are rejected.
- 7) ☒ Claim(s) 2 and 3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 10/157,033.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/26/04; 10/8/03</u> | 6) <input type="checkbox"/> Other: ____  |

*Specification*

1. On page 1, line 5, after "2002", --now U.S. Pat. No. 6,737,662-- should be inserted.
- On page 17, line 19, "a diffractive elements" should be changed to --diffractive elements--.

*Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 4-11 and 17-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Yutaka (JP-08313842).

Regarding claims 1 and 23, Yutaka shows in Fig.1 the following elements of applicant's invention: a) a radiation system (1-7) configured to provide a projection beam of radiation; b) a support (a support for holding the mask 8) configured to support a patterning device (8), the patterning device configured to pattern the projection beam according to a desired pattern; c) a substrate table (11, 12) configured to hold a substrate (10); and d) a projection system (9) configured to project the pattern beam onto a target portion of the substrate, wherein the radiation system comprises an illumination system (1, 4, 5) configured to define an intensity distribution of the projection beam, the illumination system comprising a setting device (4) configured to direct different parts of an incoming radiation beam into different directions to provide a desired angular intensity distribution of the projection beam at the patterning device, the setting device comprising a plurality of directing elements, each directing element configured

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to direct a part of the incoming radiation beam, and an orientation of each directing element is set to direct the part of incoming radiation beam into a desired direction (abstract, lines 1-13).

Regarding claim 4, Yutaka discloses re-directing optical elements (6, 7).

Regarding claim 5, the limitation therein is shown in Fig. 1.

Regarding claims 6-8, Yutaka shows in Fig. 5 a beam widening device (53).

Regarding claim 9, micromirrors of a DMD (4) are arranged side by side to each other.

Regarding claims 10 and 11, Yutaka discloses a concentrating device (2).

Regarding claims 17-22, the method steps therein are inherently met by Yutaka.

### *Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yutaka in view of Schultz et al (6,859,515).

Regarding claims 12-14 and 16, Yutaka differs from the claimed invention in that it does not disclose the recited first and second faceted reflectors. However, Schultz et al discloses an illuminating system for fulfilling the requirement for an exposure system for wavelengths in the EUV region utilized with first and second faceted reflectors, wherein the first and second faceted reflectors can be moved in view of facilitating an alignment of the beams for convergence in the image plane (col.3, lines 14-17). It would have been obvious to one of ordinary skill in the art to

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modify the device of Yutaka by utilizing an illumination system of Schultz et al in view of the desire to achieve EUV lithography.

Regarding claim 15, the specific number of facets for a second faceted reflector, depending on design requirements and the desired performance, would have been an obvious design choice within the skill of a person of ordinary skill in the art depending on the needs of the particular application.

*Allowable Subject Matter*

6. Claims 2 and 3 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 2 and 3, the prior art fails to disclose or make obvious a lithographic projection apparatus comprising, in addition to the other recited features of the claim, the detailed structure limitations of a setting device as recited in claim 2.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Pyo whose telephone number is (571) 272-2445. The examiner can normally be reached on Mon-Fri (with flexible hour), First Mon. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David P. Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kevin Pyo  
Primary Examiner  
Art Unit 2878

Pkk  
6/14/05